



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,961	10/13/2005	Thorsten Enders	10191/3917	8807
26646	7590	04/21/2006	EXAMINER	
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			CAVALLARI, DANIEL J	
			ART UNIT	PAPER NUMBER

2836

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,961

Applicant(s)

ENDERS ET AL.

Examiner

Daniel J. Cavallari

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/19/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The examiner acknowledges a submission of the preliminary amendment filed on 4/19/2005. The changes to the specification, abstract, cancellation of claims 1-11 and new claims 12-23 are accepted.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 4/19/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

DETAILED ACTION

Drawings

The drawings are objected to because:

- Figures 4 and 5 comprise of labels " Z_{last} " when " Z_{load} " was disclosed in the specification (See Specification, Page 5).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

Art Unit: 2836

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 15, 16, & 18 are objected to because of the following informalities:

- Claim 15 recites the limitation of "...wherein the central litz wire at both ends thereof is connected to a vehicle body." Figure 4 is an illustration of the litz wires connection to a vehicle body (12) and it discloses a the central litz wire (2) connected to the vehicle body (12) on only one end. There is no disclosure of both ends of the central litz wire being connected to the vehicle body.

Appropriate correction is required.

- Claim 16 recites "an annular core including a ferritic material..." which is unclear. The core does not "include" a ferritic material but rather is composed of the material. The claim will be examined as best understood to mean "a ferrite annular core through which at least one of the supply lines passes."

- Claim 18 recites the limitation of the annular core being located "...on a generator side" however a generator is not positively recited making it unclear what exactly is meant by "a generator side". Therefore, the limitation of this claim is nominal and "a generator side" is read as merely a label to a "side" at which the ferrite cores are located.

Claim Rejections - 35 USC § 112

Claims 12, 13, & 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to Claim 12

The limitation of the supply line arranged in a "star structure" having one "star point" is unclear. The dictionary definition of the word "star" is "a conventional figure with five or more points that represents a star." Figure 1 and 2 do not appear to the examiner as representative of a star. Further more, it is unclear what constitutes a "star point". The claim will be examined as best understood to mean a supply line in an annular arrangement with at least one central portion.

In regard to Claims 13 & 14

Claims 13 & 14 recite the limitation of "capacitors" short-circuiting the litz wires. It is unclear to the examiner whether the capacitors are actual separate components from

Art Unit: 2836

the litz wires, as shown in Figure 2 and disclosed in the Specification on Page 5 or whether this capacitance is the parasitic capacitance shown in Figure 5 and disclosed on Page 6 of the Specification. Since the capacitance has been disclosed as both parasitic and physically separate components, it is unclear what is being referenced in the claims.

Claim 13 & 14 recite the limitation of litz wires short-circuited with respect to each other using "high-frequency technology". It is unclear what constitutes "high frequency technology" therefore it is unclear what is meant by short-circuiting the litz wires using "high-frequency technology".

Because of the 112 problems, no art can be applied to Claims 13 & 14.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Eruliani (US 3,973,227).

Eruliani teaches:

- An annular arrangement of a supply line (120) having at least one central conductor (130) wherein a portion of the supply line is arranged in a coaxial

arrangement of a plurality of outer litz wires (120) disposed about a central litz wire (130) (See Figure 6 & Column 5, Lines 10-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eruliani and Osha (US 6,249,060).

Eruliani teaches a litz wire configuration with a central litz wire but fails to teach the central litz wire attached to a vehicle body on both ends.

Osha teaches a multiplexed cabling system used for a vehicle in which a wire harness (145) is attached to a control processor (150) and vehicle components (160, 165, 170) via a wire harness incorporating a vehicle ground (vehicle body) (See Column 3, Line 63 to Column 4, Line 11 & Column 5, Lines 15-16 & Column 5, Line 54 to Column 6, Line 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the multiplexed cabling system taught by Osha into the litz wire configuration taught by Eruliani in place of the bus interface. The motivation

Art Unit: 2836

would have been to control electrically operated components of a vehicle (See Osha, Abstract).

Claim 16, 17, & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eruliani and Frungel et al. (US 3,300,682).

Incorporating all arguments above of the supply line structure taught by Eruliani, Eruliani fails to teach the use of a ferrite annular core. Frungel et al. teaches a supply line structure incorporating conductors passed through and wrapped around a ferrite annular core on a generator side (6) (See Figures 1b and 2a & Column 2, Line 66 to Column 3, Line 12 & Column 5, Lines 57-69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a ferrite annular core in which to pass the electrical supply line through or wrap around as taught by Frungel et al. The motivation would have been to vary the inductance of the line to a desired level (See Column 2, Line 66 to Column 3, Line 12).

Art Unit: 2836

Claims 19 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eruliani and Eichmann et al. (US 6,495,763).

Incorporating all arguments above of the supply line structure taught by Eruliani, Eruliani teaches a multiplicity of outer litz wires around a central litz wire (See Figure 6) but fails to explicitly teach the number of litz wires in the outer layer.

Eichmann et al teaches a wire arrangement in which 7 outer wires are located around a central wire (See Figure 3 & Column 3, Line 29-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate seven outer wires as taught by Eichmann et al. The motivation would have been to provide a sufficient number of wires needed to adequately operate the system by carrying the required current.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eruliani and Ruthrof et al. (US 4,642,417).

Incorporating all arguments above of the supply line structure taught by Eruliani, Eruliani fails to explicitly teach the wave impedance of the supply line.

Ruthrof et al. teaches a conductor system which has a wave impedance of 50 ohms.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ruthrof et al. with the system of

Art Unit: 2836

Eruliani creating a power line structure with a wave impedance of 50 ohms. The motivation would have been to create a system with a suitable wave impedance.

Claims 22 & 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eruliani and Yoshida et al. (US 2002/0030249 A1).

Incorporating all arguments above of the supply line structure taught by Eruliani, Eruliani fails to explicitly teach the coaxial arrangement transmission characteristics.

Yoshida et al. teaches a device with a transmission characteristic of -1.5 dB with a frequency of 250MHz (See Figure 10 & Paragraph 102).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transmission characteristics taught by Yoshida et al. into the the supply line structure of Eruliani. The motivation would have been to provide a system with suitable transmission characteristics.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Seelig (US 6,005,304)
- Shwan et al. (US 5,804,892)
- Sbuelz (US 4,268,957)
- Yoshimura et al. (JP 10040745)

Art Unit: 2836

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

April 6, 2006



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800